CHAPTER 7

DOCKAGE-FREE LENTILS

7.1 DEFINITIONS

Dockage-Free Lentils. Lentils from which the dockage has been removed.

Lentils. Threshed seeds of the lentil plant (Lens culinaris Moench), which after removal of the dockage, contain 50.0 percent or more of whole lentils and not more than 10.0 percent foreign material.

If a sample does not meet the definition of Lentils, examine it further to determine if it is:

a. Another commodity or grain for which standards have been established; or

b. "Not Standardized Commodity." No further analysis is necessary on a sample designated as "Not Standardized Commodity" unless a specific factor test is requested.

7.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for the class Lentils are shown in the United States Standards for Lentils, and in Attachment 1, "Grades and Grade Requirements for Dockage-Free Lentils," to this chapter.

7.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

a. The special grade and special grade requirements of the class Lentils are shown in the United States Standards for Lentils.

b. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for lentils are defined as follows:

(1) Large Lentils. Lentils of which not more than 3.0 percent will readily pass through a 15/64-inch round-hole sieve.

(2) Small Lentils. Lentils of which 95 percent or more will readily pass through a 15/64-inch round-hole sieve, not less than 80 percent will readily pass through a 12/64-inch round-hole sieve, and not more than 3.0 percent will readily pass through a 9/64-inch round-hole sieve.

7.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a laboratory ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel must use form FGIS-981, "Pea and Lentil Laboratory Ticket" or form FGIS-982, "Pea and Lentil Sample Ticket." Cooperators must use a similar form.

7.5 REPRESENTATIVE PORTION

A specified quantity of lentils divided out from the representative sample (refer to Chapter 2, sampling chapter) by means of an FGIS approved device.

7.6 WORK SAMPLE

A representative portion of lentils (approximate size - 1,000 grams) that is used to make all determinations required for the class Lentils.

7.7 FILE SAMPLE

a. A representative portion of lentils (approximate size - 1,000 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, appeal inspection and board appeal purposes.

b. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See FGIS Directive 9170.13, "Uniform File Sample Retention System," for additional information.

7.8 PERCENTAGES

a. Percentages are determined on the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

(2) When the figure to be rounded is followed by a figure less than 5, retain the figure; e.g., report 8.34 as 8.3 and 1.22 as 1.2.

b. All percentages must be stated to the nearest tenth percent.

7.9 LABORATORY SCALES

Weigh work portions and separations from work portions using an approved grain test scale with an appropriate division size. See Equipment Handbook, Chapter 2.

7.10 PRELIMINARY EXAMINATION

a. The sampler must observe the uniformity of the lentils as to class, quality, and condition, which includes making the determination for "Heating", and making preliminary determinations for infestation and odor; draw the representative sample; and report relevant information to the inspector.

b. The inspector must review the sampler's remarks/information when determining the representativeness of the sample. If the inspector suspects the sample is not representative, the inspector should consult with the sampler and, if necessary, dismiss the inspection or arrange to obtain another sample.

7.11 BASIS OF DETERMINATION

a. *All factor determinations must be made upon the basis of the lentils after the removal of dockage, with the following exceptions:*

(1) *Dockage must be determined upon the basis of the thresher-run lentils as sampled.*

(2) *Color must be determined after removal of dockage, defective lentils, and foreign material.*

b. *Defects in lentils must be scored in accordance with the order shown in the following order; weevil damaged lentils, heat-damaged lentils, damaged lentils and split lentils; and once an individual lentil is scored in a defective category it must not be scored for any other defect but it must remain as part of the sample for purposes of determining the percentages of other defects in the sample.*

NOTE 1: When lentils that are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of lentils, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers or 1,000,000 pounds or less. Inspect each sublot separately.

NOTE 2: When lentils that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in quality, or condition, the lentils in each portion must be inspected separately.

Follow a systematic factor examination procedure. The order of procedure may vary depending on the quality of the lentils and the tests that are requested. A general order of procedure is as follows:

(1) Review the information on the sample ticket.

(2) Use an FGIS approved divider to process the representative sample into two representative portions: work sample and file sample.

(3) Examine the work sample for infestation, odor, broken glass and metal fragments.

(4) When necessary, sieve the work sample to determine if the lentils meet the size requirements for "large lentils" or "small lentils."

(5) When needed, divide out a dockage-free portion and determine the percent of moisture.

(6) Divide out approximately a **60-gram portion for small seeded lentils** or a **125-gram portion for large seeded lentils**, and determine the percent of defective lentils, foreign material, and other pertinent grading factors.

(7) After removing the defective lentils and foreign material from the portion, examine the "clean" portion for color.

7.12 INSECT INFESTATION

"Weevils" include pea weevils, coffee bean weevils, broad nosed grain weevils, rice weevils, granary weevils, maize weevils and lesser grain borers. "Other live insects" include beetles, moths, meal worms and other insects injurious to stored lentils.

To further define "other insects injurious to stored lentils" refer to the USDA-ARS, Agricultural Handbook 500 – Stored Grain Insects. Images of insects may also be viewed on the GIPSA website.

a. Determine infestation on the basis of the work sample as a whole, a representative portion of approximately 60 grams for small lentils or a 125-gram portion for large seeded lentils, and the lot as a whole.

(1) Perform a cursory examination of the work sample. If two or more live insects are found, consider the lentils to be "U.S. Sample grade."

(2) Closely examine a representative portion of approximately 60 grams for small lentils or a 125-gram portion for large seeded lentils, divided out from the work sample.

(a) If no live insects are found in the sample, make no further check of the sample for insects.

(b) If two or more live insects are found, consider the lentils to be "U.S. Sample grade."

(c) If one live insect is found, closely examine the remainder of the work and file sample.

1 If one or more live insects are found in the remainder of the work or file sample, consider the lentils to be "U.S. Sample grade."

2 If no live insects are found in the remainder of the work or file sample, do not consider the lentils to be "U.S. Sample grade."

(3) Examine the lentils in the lot; i.e., the surface area of the lot and the area around the lot.

(a) If no live insects are found in, on, or about the lot, make no further check of the lot for insects.

b. If two or more live insects are found, consider the lentils to be "U.S. Sample grade."

(b) If two or more dead insects are found, consider the lentils to be Distinctly Low Quality and grade the lentils "U.S. Sample grade."

c. When applicable, show number of live insects on the work record and result section of the certificate and grade the lentils "U.S. Sample grade."

7.13 MOISTURE

Moisture. Water content in lentils as determined by an approved device according to procedures prescribed in FGIS instructions.

The moisture of lentils is determined by using the GAC2500-UGMA and Perten AM 5200-A instruments utilizing the proper calibrations (see FGIS Directive 9180.61).

Basis of Determination. Determine moisture on a representative portion of approximately 650-grams.

The procedures for performing a moisture determination using the GAC2500-UGMA and Perten AM 5200-A meters are described in the Moisture Handbook.

Certification. Record the percent of moisture on the work record and results section of the certificate to the nearest tenth percent. If the moisture results exceed 14.0 percent, grade the lentils "U.S. Sample grade."

7.14 TEST WEIGHT PER BUSHEL

NOTE: This factor is not provided for under the United States Standards for Lentils, but may be determined upon applicant request.

a. Determine test weight per bushel on a representative portion of sufficient size to overflow the kettle.

b. See Chapter 1 of the Grain Inspection Handbook, Book II, for information on performing test weight per bushel determinations.

c .Record the test weight per bushel on the work record and results section of the certificate to the nearest tenth of a pound.

7.15 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

(1) Off-odors (i.e., musty, sour and commercially objectionable odors) are usually detected at the time of sampling.

(a) If there is any question as to the odor when the sample is being taken, put part of the sample into an airtight container to preserve its condition for further examination in the laboratory.

(b) Return the portion to the sample before other tests are made.

(2) A **musty** odor must be any odor that is earthy, moldy, and ground-like. Do not confuse a burlap bag odor with a musty odor.

(3) A **sour** odor must be any odor that is rancid, sharp, or acrid.

(4) A **commercially objectionable** odor is any odor that is not normal to lentils and that, because of its presence, renders the lentils unfit for normal commercial usage; e.g., animal hides, fertilizer, oil products, skunk, smoke, fire-burnt and decaying animal and vegetable matter odors.

(5) Fumigant or insecticide odors are considered commercially objectionable odors if they linger and do not dissipate. When a sample of lentils contains a fumigant or insecticide odor that prohibits a determination as to whether any other odor(s) exists, apply the following guidelines:

(a) Original Inspections. Allow the work portion to aerate in an open container for a period not to exceed 4 hours.

(b) Appeal and Board Appeal Inspections. Allow unworked file samples and new samples to aerate in an open container for a period not to exceed 4 hours. The 4-hour aeration requirement does not apply when the original work portion was aerated and retained as the final file.

(c) Final Action. Consider the sample as having a commercially objectionable odor if the fumigant or insecticide odor persists based on the above criteria.

b. When lentils are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and result section of the certificate and grade the lentils "U.S. Sample grade."

7.16 HEATING

a. Determine heating on the basis of the lot as a whole.

(1) When high temperatures develop in lentils as the result of excessive respiration, such lentils are heating.

(2) Heating lentils usually give off a sour or musty odor.

(3) Care should be taken never to confuse lentils that are warm due to storage in bins, cars, or other containers during hot weather with lentils that are heating from excessive respiration.

b. When applicable, show the term "Heating" on the work record and results section of the certificate, and grade the lentils "U.S. Sample grade."

7.17 DEFECTIVE LENTILS (TOTAL)

The categories of defective lentils must be weevil-damaged lentils, heat-damaged lentils, damaged lentils, and split lentils.

Defects in lentils must be scored in accordance with the order listed below; and once an individual lentil is scored in a defective category it must not be scored for any other defect but it must remain as a part of the sample for purposes of determining the percentage of defects in the sample.

a. Determine defective lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Score defects in the following order: weevil-damaged, heat-damaged, damaged and split lentils.

(1) Once an individual lentil is scored, do not score it for any other defect but retain it as part of the sample for purposes of determining the percentage of other defects in the sample.

(2) Record the percent of each type of defect and the percent of total defects on the work record and results section of the certificate to the nearest tenth percent. (If an individual factor result is 0.0 percent, no result is required to be shown.)

7.18 WEEVIL-DAMAGED LENTILS

Weevil-Damaged Lentils. Whole and pieces of lentils which are distinctly damaged by weevils or other insects.

a. Determine weevil-damaged lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Consider as weevil-damaged:

(1) Lentils that contain or had contained a weevil, larva, or any other insect; and

(2) Lentils that have been stung by weevils or other insects where the damage extends into the cotyledon shown on Visual Reference Image – (See VRI-LEN-1.0 Insect-Stung Damage.)

NOTE: Lentils that have been "marked" by insects but where the sting does not penetrate the cotyledon or are insect chewed are not considered as weevil-damaged lentils.

c. Record the percent of weevil-damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

7.19 HEAT-DAMAGED LENTILS

Heat-Damaged Lentils. Whole and pieces of lentils which have been materially discolored as a result of heating.

a. Determine heat-damaged lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Lentils which have been materially damaged to an extent that the cotyledon has been discolored equal to or greater than that shown on (See VRI - LEN-1.3 Heat Damage).

c. Record the percent of heat-damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

7.20 DAMAGED LENTILS

Damaged Lentils. Whole and pieces of lentils which are distinctly damaged by frost, weather, disease, heat (other than to a material extent), immature, or other causes, (except weevil or material heat damage) or are distinctly soiled or stained by nightshade, dirt, or toxic material.

NOTE: Damaged lentils must not include weevil-damaged, heat-damaged or "Sunburned" lentils commonly referred to as rust colored lentils due to the oxidation process.

a. Determine damaged lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

(1) Insect-Stung Lentils. Lentils that have white "chalky" spots usually caused by Lygus bugs or similar insects. (See VRI - LEN-1.0 Insect-Stung Damage).

(2) Blight (Ascochyta) Damage. Lentils infected by blight damage have brown blotches on the surface. A severely infected lentil is purplish brown, shriveled and small, and may have a white fungal growth on the surface. Lentils, which contain any amount of mold on the cotyledon, must be considered damaged. (See VRI – LEN 1.1 Ascochyta blight). This print depicts what Ascochyta blight looks like and is not intended to represent any minimum coverage or color intensity requirement.

(3) Frost Damaged Lentils. Lentils that have been damaged by frost to the extent that the cotyledon or seedcoat has been discolored equal to or greater than that shown on (See VRI - LEN-1.2 Frost Damage). Frost damaged lentils are usually characterized by a waxy textured cotyledon that may be yellow, green, or another color. Frost damaged lentils should not be confused with immature lentils or lentils that have naturally green-colored cotyledons.

(4) Damaged-By-Heat Lentils. Lentils which have been damaged by heat to the extent that the cotyledon has been discolored equal to or greater than that shown on (See VRI - LEN-1.4 Damaged By Heat).

(5) Mold Damaged Lentils. Lentils which contain surface mold equal to or greater than that shown on (See VRI - LEN-1.5 Mold Damage). (Lentils, which contain any amount of mold on the cotyledon, must be considered damaged).

(6) Sprout Damaged Lentils. Lentils which are sprouted and the sprout is equal to or greater than that shown on (See VRI - LEN-1.6 Sprout Damage).

(7) Dirt/Grime Damaged Lentils. Lentils with dirt and grime (including nightshade juice/bag markings/ink stains) adhering to the seed coat or cotyledon equal to or greater than that shown on (See VRI - LEN-1.8 Dirt/Grime).

(8) Worm-Eaten or Worm-Cut Lentils. Lentils which have been chewed by insect larvae. Not to be confused with weevil-bored lentils containing insect webbing or filth. Any chewed lentil is considered damaged.

(9) Immature Lentils. Lentils that do not have a traditional lens-shaped profile due to immaturity. Immature lentils are characterized as having a thin, wrinkled, and misshapen appearance. All three conditions must be present for an inspector to consider a lentil an immature lentil. Lentils may also be discolored.

b. Record the percent of damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

7.21 SPLIT LENTILS

Split Lentils. Pieces of lentils which are less than three-fourths of a whole lentil, and lentils in which the cotyledons are loosely held together.

a. Determine split lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Small recognizable lentil pieces are considered a split not foreign material.

c. Record the percent of split lentils on the work record and result section of the certificate to the nearest tenth percent.

7.22 SKINNED LENTILS

Skinned Lentils. Lentils from which three-fourths or more of the seed coat has been removed.

a. Determine skinned lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Skinned lentils are lentils that are scraped or skinned to an extent equal to or greater than that shown on (VRI – LEN-1.7 Skinned).

c. Record the percent of skinned lentils on the work record and result section of the certificate to the nearest tenth percent.

NOTE: **Decorticated Lentils (i.e., seed coat removed) are a processed commodity. They may be inspected for the same quality factors (e.g., damaged kernels, skinned lentils, etc.), as applied to unprocessed lentils, however, certify as "Decorticated Lentils" with no grade applied.**

7.23 CONTRASTING LENTILS

Contrasting lentils. Lentils that differ substantially in size or color from the predominating lentil type.

a. Determine contrasting lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Sieves may be used as an aid when determining contrasting classes in lentils, however, the mechanical separation must be reviewed to recover lentils that may have fallen through and do not meet the definition of contrasting lentils.

c. For sizing purposes only, lentils that are substantially different in size are to be considered.

d. Color, as used in this definition, is limited to the lentil's natural seedcoat color and excludes the mottling that may be present on some seedcoats and discolorations that may be associated with aging or handling/storage practices.

e. Contrasting lentils also function as "defective lentils" and "skinned lentils" when appropriate.

f. Record the percent of contrasting lentils on the work record and result section of the certificate to the nearest tenth percent.

7.24 FOREIGN MATERIAL (TOTAL)

Foreign Material. All matter other than lentils, including detached seedcoats, which cannot be readily removed in the proper determination of dockage.

Stones. Concreted earthy or mineral matter, and other substances of similar hardness that do not readily disintegrate in water.

a. Determine foreign material on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Record the percent of foreign material on the work record and result section of the certificate to the nearest tenth percent.

NOTE: **Rogue lentils are not considered as foreign material.**

7.25 INCONSPICUOUS ADMIXTURE

Inconspicuous Admixture. Any seed which is difficult to distinguish from a lentil; including, but not limited to, Vicia sativa.

a. Determine inconspicuous admixture on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Record the percent of inconspicuous admixture on the work record and result section of the certificate to the nearest tenth percent.

NOTE: Rogue lentils function as inconspicuous admixture.

7.26 SIZE REQUIREMENTS

Large Lentils. Lentils of the class Lentils of which not more than 3.0 percent of the lentils will readily pass through the 15/64-inch round-hole sieve.

Small Lentils. Lentils of the class Lentils of which 95 percent or more will readily pass through a 15/64-inch round-hole sieve, not less than 80 percent will readily pass through a 12/64-inch round-hole sieve, and not more than 3.0 percent will readily pass through the 9/64-inch round-hole sieve.

a. Determine the special grades "Large Lentils" and "Small Lentils" on a representative portion of approximately 125 grams.

(1) Size lentils by sieving the representative portion with the appropriate size sieve (see Table 1).

Table 1 - Prescribed Sieves

Special Grade	Sieves
Large Lentils	15/64 - inch Round-Hole
Small Lentils	15/64 - inch Round-Hole 12/64 - inch Round-Hole 9/64 - inch Round-Hole

(2) Nest the appropriate size sieve(s) on top of a bottom pan.

(3) Place the sieve(s) in a mechanical grain sizer and set the timer to 20.

(4) Put the representative portion in the center of the sieve and actuate the sizer.

(5) Return the lentils remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(6) Determine the percent of lentils that pass through the sieve(s).

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

b. Record the percent of lentils that pass through the sieve(s) and the size of sieve(s) used in the determination on the work record.

(1) If not more than 3.0 percent of the lentils pass through a 15/64-inch round-hole sieve, show the special grade "Large Lentils" on the work record and on the grade line of the certificate.

(2) If 95 percent or more of the lentils pass through a 15/64-inch round-hole sieve, not less than 80 percent pass through a 12/64-inch round-hole sieve and not more than 3.0 percent pass through a 9/64-inch round-hole sieve, show the special grade "Small Lentils" on the work record and on the grade line of the certificate.

7.27 COLOR

Good Color Lentils. Lentils that are practically free from discoloration and have the uniform natural color and appearance characteristics of the predominating lentil type.

Fair Color Lentils. Lentils that are lightly to moderately discolored from storage or other causes to the extent they cannot be considered of good color.

Poor Color Lentils. Lentils that are severely discolored from storage or other causes to the extent they cannot be considered of fair color.

Color must be determined after the removal of dockage, defective lentils, and foreign material.

a. Determine color on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils after the removal of dockage, defective lentils, and foreign material.

b. Available interpretive line prints (ILP) serve as the basis for this general appearance assessment.

NOTE: When determining color, ignore obvious contrasting classes (CCL) if the overall color of the predominating and contrasting lentils is of a good natural color.

(3) Evaluate bleached lentil samples using either the Pardina or Regular lentil ILP for color and compare the amount of bleached out lentils to the amount of oxidized lentils. The intensity must contrast to the normal lentil color.

(4) Using the ILP for non uniform lentils, determine the amount of discolored lentils required in a sample to affect color. The intensity of the discolored lentils may be lighter if the lentils contrast with the remainder of the sample.

(5) Lentils that are discolored by dust or a slight amount of dirt, which can be removed by processing methods, must be considered as "good color."

NOTE: One of the most common causes of discoloration of lentils is excessive heat, so-called "sunburned lentils" which are characterized by dark brown or reddish casts. Long storage may also produce discoloration and prevent the lentils from being considered of good color.

(6) When dockage-free lentils are determined to be other than "good color," record this information on the work record and result section of the certificate. Lentils that are "fair" in color must grade no higher than U.S. No. 2. Lentils that are "poor" in color must grade no higher than U.S. No. 3.

7.28 U.S. SAMPLE GRADE CRITERIA

Basis of Determination. Determine U.S. Sample Grade criteria on the lot as a whole and/or the representative sample as a whole. Table 2 shows the criteria and corresponding tolerance limits, and the appropriate basis of determination.

TABLE 2

U.S. SAMPLE GRADE CRITERIA

Criteria	Number/Weight 1/	
	Sample Basis	Lot Basis 2/
Any numerical grading factor	exceeds limits for U.S. No. 3	N/A
Moisture	more than 14.0%	N/A
Animal filth	2 or more	2 or more
Deer/Elk Pellets	1 or more	1 or more
Broken Glass (any size)	Presence	Presence
Live Insects	2 or more	2 or more
Metal Fragments	2 or more	2 or more
Odor	Presence	Presence
Insect Webbing or Filth	2 or more	2 or more
Heating	Presence	Presence

1/ Record count factors to the nearest whole number.

2/ The entire sample of a submitted sample is considered as the lot.

Certification. Grade dockage-free lentils "U.S. Sample Grade" when one or more of the limits in table 2 are exceeded. Record the reason(s) why in the "Results" section of the certificate. Record count factors to the nearest whole number.

7.29 DISTINCTLY LOW QUALITY

Distinctly Low Quality. Whole lentils which are obviously of inferior quality because they are stained by an unknown foreign substance or because they otherwise contain a known toxic substance(s) or an unknown foreign substance(s) or because they are in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.

a. Determine distinctly low quality on the basis of the lot as a whole or the representative sample as a whole.

b. Lentils that are obviously affected by unusual conditions which adversely affect the quality of the lentils, such as **unknown foreign substance, or treatment with a fungicide**, must be considered to be "distinctly low quality."

c. Record the words "Distinctly Low Quality" and the reason(s) why in the result section of the certificate, and grade the lentils "U.S. Sample grade."

7.30 VISUAL REFERENCE IMAGES

Visual Reference Images (VRI) (Table 3) are used to ensure consistent and uniform application of grading lines and illustrate types of damage in conjunction with written descriptions.

Table 3
Visual Reference Images

LEN – 1.0	**INSECT STUNG DAMAGE**
LEN – 1.1	**BLIGHT (ASCOCHYTA) DAMAGE**
LEN – 1.2	**FROST DAMAGE**
LEN – 1.3	**HEAT DAMAGE**
LEN – 1.4	**DAMAGED BY HEAT**
LEN – 1.5	**MOLD DAMAGE**
LEN – 1.6	**SPROUT DAMAGE**
LEN – 1.7	**SKINNED**
LEN – 1.8	**DIRT / GRIME**

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GRADES AND GRADE REQUIREMENTS FOR DOCKAGE-FREE LENTILS

Grading Factors	Grades U.S. Nos.		
	1	2	3
Defective Lentils			
Total 1/	2.0	3.5	5.0
Weevil-Damaged Lentils	0.3	0.8	0.8
Heat-Damaged Lentils	0.2	0.5	1.0
Foreign Material			
Total 2/	0.2	0.5	0.5
Stones	0.1	0.2	0.2
Skinned Lentils	4.0	7.0	10.0
Contrasting Lentils 3/	2.0	4.0	>4.0
Inconspicuous Admixture	0.5	0.8	1.0
Minimum Requirements for Color	Good	Fair	Poor

U.S. Sample grade must be lentils which -

a. Do not meet the requirements for the grades U.S. Nos. 1, 2, or 3; or
b. Contain more than 14.0 percent moisture, live weevils, or other live insects, metal fragments, broken glass, or a commercially objectionable odor; or
c. Are heating, or distinctly low quality.

1/ Defective lentils total is weevil-damaged, heat-damaged, damaged, and split lentils combined.
2/ Foreign material total includes stones.
3/ Lentils with more than 4.0 percent contrasting lentils must grade no higher than a U.S. No. 3.